

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-21 are pending in the present application. Claims 1 and 9 are amended by the present amendment.

Claim amendments find support in the application as originally filed, at least in figures 5 and 10, thus, no new matter is added.

In the Office Action, Claims 1, 2, 6, 8-10, 14 and 16 were rejected under 35 U.S.C. §102(b) as anticipated by Dayal et al. (U.S. Pat. No. 7,046,352, herein "Dayal"); Claims 3, 7, 11 and 15 were rejected under 35 U.S.C §103(a) as unpatentable over Dayal in view of Murakami et al. (U.S. Pat. No. 5,017,798, herein "Murakami"); Claims 4, 5, 12 and 13 were objected to as dependent upon a rejected base claim but would be allowable if rewritten in independent form; and Claims 17-21 are allowable.

Initially, Applicants gratefully acknowledge the early indication of the allowable subject matter in Claims 4, 5, 12, 13 and 17-21. However, as Applicants consider that Claims 1 and 9 as amended patentably define over the cited art, Claims 4, 5, 12 and 13 have presently been maintained in dependent form.

Before turning to the outstanding prior art rejections, it is believed that a brief review of the present invention would be helpful.

Claim 1 recites an illumination optics which applies a first inspection light on a predetermined wavelength to a surface opposite to a pattern formed surface of the substrate, and applies a second inspection light whose wavelength is equal to the predetermined wavelength of the first inspection light to the pattern formed surface. Further Claim 1 recites a detector which selectively detects a transmitted light through the substrate by irradiation of the first inspection light and a reflected light from the substrate by irradiation of the second

inspection light so as to perform a transmitted light-based inspection and a reflected-light-based inspection. Additionally, Claim 1 recites a space separation mechanism which is provided in the vicinity of an optical focal plane toward the pattern formed surface of the substrate, and directionally separates an irradiation beam of the first inspection light and the second inspection light such that the transmitted light through the substrate and the reflected light from the substrate are imaged in two discrete areas separated on the optical focal plane.

Applicants respectfully traverse the rejection of Claims 1, 6, 8, 9, 14 and 16 under 35 U.S.C. §102(e) as anticipated by Dayal.

Dayal describes a surface inspection system in which a reflected beam 104 and a transmitted beam 106 are directly transmitted into a detector D.

However, Dayal does not describe or suggest a space separation mechanism as is recited in Claim 1. In addition, Dayal does not describe providing first and second detection sensors. In a non-limiting example shown in Figure 5 the space separation mechanism is shown as reference numeral 10. In Figure 5, the irradiation beam of the first inspection light transmitted through the substrate and the irradiation beam of the second inspection light reflected from the substrate are directionally separated by the mirror 15 and detected by different sensors 12 and 17.

The space separation mechanism recited in Claim 1 provides an advantage over the system of Dayal as the invention recited in Claim 1 ensures that measurements can be obtained from a field of view that is spatially separated within an observation field of the pattern. As a result, a light amount loss can be prevented from being caused in the detection optics due to the separation of the transmitted light and the reflected light. Therefore, pattern defects on the substrate can be inspected by use of both the transmitted light and reflected light, and even when a short-wavelength light is used, the light amount loss in the detection

optics can be reduced to conduct the inspection with satisfactory sensitivity.¹

Thus, Dayal does not describe or suggest "a space separation mechanism which is provided in the vicinity of an optical focal plane toward the pattern formed surface of the substrate, and directionally separates an irradiation beam of the first inspection light and the second inspection light such that the transmitted light through the substrate and the reflected light from the substrate are imaged in two discrete areas separated on the optical focal plane."

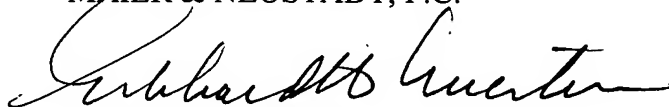
Claim 9 recites similar features to those recited in Claim 1. In addition, the further cited Murakami reference does not cure the above noted deficiencies of Dayal.

Accordingly, as Dayal does not describe all of the features recited in amended Claim 1, Applicants respectfully submit that Claim 1 and similarly Claim 9 and claims depending therefrom patentably distinguish over Dayal.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

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¹ See paragraph [0058] of the disclosure.